

CLAIMS

1. A pressure sensor with a diaphragm (2) and at least one measurement element arranged on the diaphragm (2), for detecting a diaphragm deflection, characterized by at least one holding element (4) arranged on a surface of the diaphragm (2) for accommodating a sealing element (12), with a through-hole (8) which faces the surface of the diaphragm and which has a cross section corresponding to the outer contour of a sealing element (12) to be accommodated.
2. A pressure sensor according to claim 1, wherein a holding element (4, 6) in each case is arranged on each of the surfaces of the diaphragm (2) which are opposite to one another, each with a through-hole (8, 10) which faces the surface of the diaphragm (8, 10) and which has a cross section corresponding to the outer contour of a sealing element (12, 14) to be accommodated.
3. A pressure sensor according to claim 1 or 2, wherein the holding elements (4, 6) in the region of the through-hole (8, 6) have a size (thickness) which is less than the thickness of sealing element (12, 14) to be inserted.
4. A pressure sensor according to one of the preceding claims, wherein the sealing element (12, 14) is a sealing ring, and in particular an O-ring.
5. A pressure sensor according to one of the preceding claims, wherein the sealing element (12, 14) is firmly connected to the holding element (4, 6) and in particular is formed with this as one piece.
6. A pressure sensor according to one of the claims 2 to 5, wherein the two holding elements (4, 6) are connected to one another via at least one locking connection (20).
7. A pressure sensor according to one of the claims 2 to 6, wherein the two holding elements (4, 6) are formed as one piece and are connected to one another via a hinge.
8. A pressure sensor according to one of the preceding claims, wherein in at least one holding element (6) on one surface there is formed a shoulder (18) surrounding the through-hole (10), for accommodating the diaphragm (2).

9. A pressure sensor according to one of the preceding claims, wherein at least one holding element (4) is formed by a circuit board.
10. A pressure sensor according to claim 9, wherein the diaphragm (2) via contact locations (40, 42) arranged in the peripheral region of the through-hole (8) is electrically connected to strip conductors formed on the circuit board (4).
11. A pressure sensor according to claim 10, wherein between the contact locations (40, 42) between the diaphragm (2) and the circuit board (4), preferably parallel to the surface of the diaphragm, there are formed gaps (44) extending from the through-hole (8) to the outer periphery of the diaphragm (2).
12. A pressure sensor according to one of the preceding claims, wherein a sensor housing (22) is provided into which the diaphragm (2) with the holding element (4, 6) is inserted in a direction parallel to the diaphragm surface in a manner such that a sealing element (12, 14) inserted into the through-hole (8, 10) of the holding element comes to bear between a diaphragm surface and the sensor housing (22).
13. A pressure sensor according to claim 12, wherein two connection holes (26) are arranged in the sensor housing (22), which in each case, lying opposite to one of the through-holes (8, 10), lead out in the holding elements (4,6), wherein sealing elements (12, 14) inserted into the through-holes (8, 10) come to bear on the sensor housing (22) at the periphery of the opening (orifice) of the connection holes (26).
14. A pressure sensor according to claim 12 or 13, wherein at least the part of the sensor housing (22) contacted by fluid is designed as one piece.